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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,443	06/26/2003	Hok-Kin Choi	42P16768	7361

8791 7590 01/25/2005

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EXAMINER

KLEMANSKI, HELENE G

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/609,443

Applicant(s)

CHOI ET AL.

Examiner

Helene Klemanski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-27 and 29 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,13,14 and 28 is/are rejected.
- 7) ☒ Claim(s) 3,5-12 and 15-18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/26/03&8/15/03</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

#230 in Fig. 2. Correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 2, 4, 13, 14 and 28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 22 and 23 of copending Application No. 10/649,087 (US 2004/0038073).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the present application are generic to said patent claims and would be obvious thereby.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. Claims 1, 2, 4, 13, 14 and 28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 22 and 23 of copending Application No. 10/649,109 (US 2004/0035316). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the present application are generic to said patent claims and would be obvious thereby.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1, 2, 4, 13, 14 and 28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 22 and 23 of copending Application No. 10/025,033 (US 2003/0113576). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the present application are generic to said patent claims and would be obvious thereby.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

It is the examiner's position that the ammonium sulfate complexing agent of the above references would act as a complexing agent component *and* the ammonium salt component of applicant's electroless solution.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 4, 13, 14 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 1022770.

EP 1022770 teaches an electroless plating liquid comprising a salt of copper or nickel, a chelating agent such as glycine, an ammonium salt such as ammonium succinate, a reducing agent such as ammonium hypophosphite and a surfactant in the form of an ammonium salt. The electroless plating liquid is prepared by; (1) mixing a salt of copper or nickel, the glycine and the ammonium succinate to form a first solution; (2) adjusting the pH by adding aqueous ammonia to form a second solution and (3) adding the ammonium hypophosphite and the surfactant to the second solution to form the electroless plating solution. See col. 7, line 45 – col. 8, line 35. The method of preparing the electroless plating liquid as taught by EP 1022770 appears to anticipate the present claims.

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8. Claims 1, 2, 4, 13, 14 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Chebiam et al. (US 2003/0113576).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Chebiam et al. (US 2003/0113576) teach an electroless plating solution comprising a metal ion such as nickel or cobalt, a pH-adjusting agent such as tetramethylamine hydroxide, a single complexing/buffering agent such as ammonium sulphate, at least primary reducing agent such as sodium borohydride or dimethylamineborane, an optional secondary reducing agent such as ammonium hypophosphite and optionally a wetting agent. The electroless plating liquid is prepared by; (1) mixing a metal ion and the ammonium sulphate to form a first solution; (2) adjusting the pH by adding tetramethylamine hydroxide to form a second solution; (3) after the second solution is at a preferred pH and temperature the primary reducing agent and the optional secondary reducing agents are added to the second solution to form a third solution and (4) the third solution is applied to a substrate to cause electroless deposition of the metal. See para. 0011, para. 0014, paras. 0017-0020, para. 0022, paras. 0025-0028, paras. 0034-0035, para. 0046, para. 0058, Fig. 3 and

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claims 1, 22 and 23. The method of preparing the electroless plating liquid as taught by Chebiam et al. (US 2003/0113576) appears to anticipate the present claims.

It is the examiner's position that the ammonium sulfate complexing agent of the above reference would act as a complexing agent component *and* the ammonium salt component of applicant's electroless solution.

Allowable Subject Matter

9. Claims 19-27 and 29 are allowed.

10. The following is an examiner's statement of reasons for allowance: These claims teach a method comprising (1) storing a solution containing a subset of a group consisting of cobalt ion, citric acid, ammonium chloride and tetramethylammonium hydroxide and (2) nearer to the time when the solution will be used in a deposition process, using the solution to form a second electroless deposition solution comprising the entire group. The prior art of record generally teaches cobalt electroless plating solutions comprising cobalt ions, a complexing agent such as ammonium sulfate and tetramethylammonium hydroxide but fails to teach or fairly suggest storing the solution containing a subset of a group consisting of cobalt ion, citric acid, ammonium chloride and tetramethylammonium hydroxide and at a later time using the solution for electroless deposition as claimed by applicants.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

11. Claims 3, 5-12 and 15-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art of record teaches or fairly suggests a method of storing a solution wherein (1) the first solution comprising a metal ion, a complexing agent and a strong base and lacks the ammonium salt and at a later time adding the ammonium salt to form a second solution available for electroless deposition process and (2) wherein the complexing agent is a carboxylic acid as claimed by applicants.

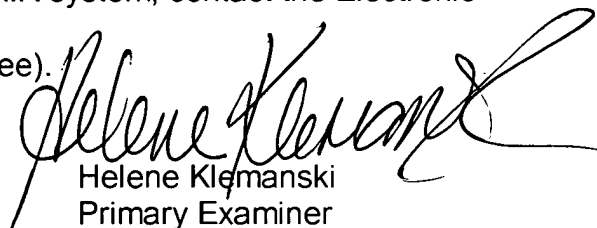
Conclusion

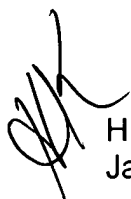
The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Klemanski whose telephone number is (571) 272-1370. The examiner can normally be reached on Monday-Friday 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Helene Klemanski
Primary Examiner
Art Unit 1755



HK
January 24, 2005